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CONCEPTUALISING STATE-MARKET RELATIONS IN LAND AND PROPERTY: THE MAINSTREAM CONTRIBUTION OF NEO-CLASSICAL AND WELFARE ECONOMICS

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David Adams¹, Neil Dunse² and Michael White³

INTRODUCTION

Any analysis of state-market relations in land and property is highly dependent on the particular theoretical view taken of market operations. In this chapter, we concentrate on two well-established approaches within the mainstream of economic theory, namely, neo-classical and welfare economics. We review how each approach has been used both to specify ways in which the state should and should not intervene in land and property markets and to evaluate the impact of public policy on such markets.

In neo-classical economics, which we examine in the first part of the chapter, prices are considered to be determined by the interaction of supply and demand in the market. In policy terms, the most important question then becomes how far policy directly affects the overall quantity of supply and demand. Yet, despite the importance of supply and demand relations in land and property markets, we argue that the distinctive nature of land and property as commodities ensures that contextual influences, such as the strength of property rights and the availability of information, can be just as significant in affecting supply and demand, even though their impact may be harder to discern. Considerable scope may thus exist to influence land and property markets by seeking to alter the context within which transactions take place. We therefore turn to welfare economics in the latter part of the chapter, where we investigate how market failure distorts market operations and produce differences between private and social calculations of costs and benefits. In policy terms, the most important question then becomes how far policy is able to overcome market failure.

As the chapter demonstrates, mainstream economics can be conceived as a broad theoretical tradition that finds expression in a range of complementary approaches, each of which makes use of different assumptions in seeking to understand particular issues. Besides neo-classical and welfare economics, new institutional economics, which we discuss in the next chapter, now forms an important added component of the mainstream. For, as Samuels (1995, p. 578) explains, new institutional economics “works largely within neoclassicism, and shares its rationality, maximisation, and market or market-like orientation and likewise tends to seek, though with less formalisation, the conventional determinate, optimal, equilibrium solutions to problems.”

Over the past two decades, ‘institutionalism’ has grown to such an extent that its influence now infuses much of mainstream thought. Apart from new institutional economics, Ball (1998) identifies game theory, information theory and technical production characteristics as examples of institutionally related theories in mainstream economics. It is therefore mistaken to counterpoise

¹ University of Glasgow - david.adams@glasgow.ac.uk

² Now at Heriot-Watt University - n.a.dunse@hw.ac.uk

³ Now at Nottingham Trent University - michael.white@ntu.ac.uk

mainstream economic approaches in land and property markets with ‘institutionalism’ in its broadest sense since as Ball (1998, p. 1502) emphasises: “the perceived dichotomy between the economics of property markets and institutions is a false one. It will be argued here that there is a continuum of issues rather than an opposition.” While we leave substantive discussion of institutionalism until the next chapter, we highlight in this chapter how neo-classical and welfare economics have come to acknowledge the mediating role of institutions within state-market relations in land and property.

According to Ball (1998), the widespread recognition across theoretical traditions that institutions matter means that debate between mainstream economics and other perspectives now centres on the nature and significance of institutions and specifically on their treatment in theory and method, rather than on their importance *per se*. In the next chapter, we contrast new institutional economics with more radical institutional perspectives on state-market relations, which we discuss using the term ‘the political economy of institutionalism’. We suggest that, whereas mainstream economics primarily seeks to explain market outcomes, the political economy of institutionalism is as much concerned with market processes as outcomes and so encourages more thorough exploration of what mainstream economics often unsatisfactorily leaves within a ‘black box’.

Nevertheless, those who might expect us to use these chapters to propose the adoption of one of these theoretical traditions to the wholesale exclusion of the other will be disappointed. Instead, by acknowledging the value of theoretical pluralism (Hodgson, 1993), we contend that mainstream economics and the political economy of institutionalism should be seen as supplementary to each other (Samuels, 1995). The chapters thus echo the recent call of Guy and Henneberry (2002b: 299 and 301) that “Instead of trying to shoe-horn property research into competing disciplinary models or prioritising methodological approaches, we might begin to take a more heterogeneous route (or routes) . . . If we approach developers and development from many perspectives, equipped with the theories and methodologies of many disciplines, we will take a challenging analytical path.”

It should thus be emphasised that each of the theoretical approaches reviewed in these two chapters takes us only part way along a conceptual journey that is necessarily heterogeneous. We contend that only by completing that journey in its entirety will a more rounded understanding of state-market relations in land and property be achieved.

INSIGHTS ON SUPPLY, DEMAND AND PUBLIC POLICY FROM NEO-CLASSICAL ECONOMICS

According to neo-classical economics, land and property prices are determined by the interaction of supply and demand in the market. If supply is constrained or demand stimulated by public policy, then, other things being equal, prices will rise. The price mechanism thus operates to return supply and demand to a state of equilibrium. According to Ball *et al.* (1998, p. 63) for equilibrium to be feasible “buyers and sellers must be able to use the full available information when making their decisions and operate according to the arguments of their demand and supply schedules. This may not occur, for example, if planning regulation freezes land supply or restrictive long leases severely distort demand.” Whether and how fast equilibrium is achieved will therefore depend on the institutional characteristics of the market.

Neo-classical assumptions

In a perfectly competitive market, rapid changes in price balance the quantity demanded with the quantity supplied and ensure equilibrium. Perfectly competitive markets that are not distorted by external influences will therefore produce resource-efficient allocations. Perfect competition

requires many buyers and sellers who each have freedom of entry and exit, perfect information and a homogeneous product. However, land and property markets are far removed from meeting the conditions of perfect competition. This affects their performance and suggests a role for public policy.

Imperfections arise in the form of heterogeneity, infrequent trading, significant transactions costs, relative illiquidity and product differentiation. These in turn affect the quantity and quality of information. According to Balchin *et al.* (1988), the widespread nature of such imperfections makes property markets among the least efficient of all.

Neo-classical land economics has often been criticised by institutional writers on account of its perceived unrealistic assumptions. Van der Krabben and Lambooy (1993, p. 1384), for example, suggest that: “Neoclassical economists assume that only rationally acting individual actors operate on the market. Price adjustments will automatically lead to an equilibrium.” However, such comments ignore recent developments in neo-classical theory and have generated the response from Ball (1998) that neo-classical economics is often treated as a straw man, fashioned by its critics in a form that can be most easily knocked down.

As Maclennan and Whitehead (1996) make clear, neo-classical theory is no longer dependent on such assumptions as perfect competition, full information and instant equilibrium. According to Ball (2002), even rationality should be regarded as merely a working hypothesis or methodological standard. Rational market outcomes do not necessarily require rational behaviour by all actors. Ball *et al.* (1998) suggest that, although neo-classical economics shares many of the assumptions of equilibrium models, it seeks to explain actual behaviour in terms of rational expectations, transaction costs and asymmetric information.

This is a much broader view of neo-classical economics than taken by critics such as Hodgson (1999, p. 102) who defines it as “an approach which assumes rational, maximising behaviour by agents with given and stable preference functions, focuses on attained, or movements towards, equilibrium states, and excludes chronic information problems.” Critically, whereas Hodgson (1999) considers modern developments in mainstream economics such as game theory to be at the edge or beyond neo-classicism, much of the rapidly expanding literature on game theory is comfortably positioned within a neo-classical analytical framework (see, for example, Hargreaves Heap and Varoufakis, 1995; Montet and Serra, 2003).

Although neo-classical economic models are abstractions that ignore many aspects of reality, Ball (2002) argues that the real test of their value lies in whether or not they explain market outcomes. According to Needham (1994), the quantitative advantages of neo-classical economic theory make it better able to explain some property market outcomes than such non-quantitative approaches as Marxist economics.

Recent developments in neo-classical economic analysis of property markets

The last decade has seen a substantial development in the contribution of neo-classical economics to the analysis of property markets. It has travelled far from the point where for example neo-classical models of the development process could be criticised for their failure to distinguish between user and investor demand (Healey, 1991). Since then, Keogh (1994), DiPasquale and Wheaton (1996), and Colwell (2002) have each examined how the functional divisions of the property market relate to each other and have identified how the market signals linking the use, investment and development sectors.

Keogh (1994) provides a conceptualisation of the links between the functional divisions of property markets. He describes both short and long run responses to changes in user demand. DiPasquale and Wheaton (1996) present a long run equilibrium model connecting the use, investment and development sectors. While these conceptualisations do not, for example, fully integrate with capital markets, they can be applied to explain the current two-speed market in commercial (especially office) property where user demand remains weak while investor demand is strong. Differentiating between functions and identifying appropriate signals (e.g. yield gaps in the investment market, rental growth and security of income stream in the user market) has helped explain why investment demand, particularly from overseas, has remained buoyant in a weak user market.

Colwell has recently extended what is often now called the DiPasquale and Wheaton (DW) model by exploring protracted adjustment, vacancies and expectations. Tsolacos *et al.* (1998) apply the DW model to the UK office market and estimate, econometrically, the quantitative relationship between function-specific demand and supply variables and the dependent variables of rent, capital value and new office construction. These dependent variables reflect the respective characteristics of the user, investor and development markets. To generate this model, Tsolacos *et al.* adopt a reduced form approach where, for example, rent is written as a function of demand and supply variables. As this indicates, data availability often acts as a constraint in neo-classical model building, particularly in UK and European studies.

In the US, many authors adopt a structural modelling approach, having separate equations for demand and supply. Most US models incorporate a rental adjustment equation where rental change is seen as a function of the difference between actual and natural (or long run) vacancy rates. Hendershott (1995, 1996) also relates rental change to the difference between actual and natural rent levels as well as vacancy rates. While authors vary the exact specification of rental adjustment equations, the modelling of this process reflects a theoretical position that markets achieve equilibrium, even though such equilibrium may not be immediate or perpetual.

In their study of the London office market, Wheaton *et al.* (1997) estimate equations for construction, net absorption and rental adjustment where the latter is written as a function of lagged vacancy rates, net absorption, and lagged rents. Their results indicate that adjustment to equilibrium in the office market can take a number of years. However, modelling such adjustment processes in the rest of the UK, for example, cannot be undertaken using a structural model at the present time, due to lack of data, particularly on vacancy rates.

Hendershott *et al.* (2002) seek to resolve this problem in their study of UK regional retail and office markets. They consider how best to handle short run disequilibrium in property markets in a neo-classical economic model. Using panel data, they construct a parsimonious econometric long run model and use an error correction model to account for short run dynamics. The model remains elegant and yet sophisticated since it permits modelling of disequilibrium within mainstream economics. It incorporates recent econometric advances and pays particular attention to the statistical properties of the time series examined. The authors' estimated models are tested for cointegration⁴ to establish the validity of the long run relationships under question. By using an error correction coefficient, they measure how long it takes property markets to overcome the significant imbalances that can occur between demand and supply. This coefficient parallels that in rental adjustment equations in structural models.

⁴ Cointegration effectively tests whether a statistically valid relationship exists between variables. It thus attempts to avoid spurious correlations to identify true causal relationships.

Like the structural models, the error correction model embodies the possibility of slow adjustment to economic shocks and market imbalances. The extent to which market participants acquire new information and learn from it is thus crucial to the notion of equilibrium (Maclennan 1982). Property markets where information is scarce can be regarded as 'weak form efficient' (Ball *et al.* 1998).

Econometric models have been criticised for using aggregate data and thus missing or underestimating the importance of distinct local factors affecting property markets. Hendershott *et al.* (2002) disaggregate to a regional level and empirically test for regional differences, finding a notable London effect. Jackson (2001, 2002) disaggregates to the level of local markets in her study of the retail sector. She finds that the size of the retail core and the demographic profile of the local population provide significant explanation for differential rental levels across towns and cities in Great Britain.

Mainstream housing economic analysis has long acknowledged spatial differentiation. For example, Meen (1996, p. 370) suggests that, "a [housing] market is defined by appropriately aggregating over sub-markets where coefficient equality exists." He argues that many studies at a national level of aggregation may be biased since they impose or assume parameter homogeneity where it does not exist. Meen proceeds to examine the degree of independence across regional housing markets. Consideration is given to the nature of spatial dependence, and the related concept of spatial convergence. This can also be associated with co-integration of regional house price time series. Meen finds evidence supporting a ripple effect and convergence within regions of the south, the midlands, and the north of England.

Maclennan and Tu (1996) and Tu (2003), disaggregating to a local level of analysis, discuss the structure of housing submarkets. In relating their analysis to housing search, various outcomes to this process are suggested. Often a housing mismatch can occur if the potential purchaser does not like the housing units on offer. Search is then prolonged raising transactions costs. If multiple buyers exist, properties are sold to the highest bidder. "Differences across housing product groups in the price of a particular housing attribute ... give rise to topographically based housing submarkets." (Tu, 2003, p. 40) Furthermore, the existence of housing submarkets may imply that disequilibrium could be pervasive. This may be reflected in mismatch between demand and supply and continuous house search processes. This implies that consideration should be given to disequilibrium in modelling, for example, the response of housing market areas to planning policies that impact upon those markets.

The recent literature, outlined above, shows how neo-classical analysis can be adapted to take into account information signalling, slow adjustment, spatial specificity and disequilibrium in property markets. It also reflects the transfer of developments in mainstream economics and econometrics to the analysis of property markets. The literature explicitly recognises the imperfections of property markets but seeks to analyse and accommodate them within a neo-classical framework. This has made the framework increasingly useful for policy analysis, especially since it can provide quantifiable results of policy impacts.

Direct policy impacts on supply and demand

Research investigating the impact of public policies on land and property markets undertaken in the neo-classical tradition is strongly focused on how policy directly affects supply and demand outcomes. Although research is now emerging which investigates how business rents are influenced by different planning regimes (Henneberry *et al.*, in this volume), most work in this direction concentrates on the impact of planning constraints on land and housing markets.

White and Allmendinger (2003), who review the relationship between planning policy and its impact on the housing market, find that most authors adopt a neo-classical approach. Indeed, there is a notable degree of sophistication in the econometric models developed in Bramley (1993a, 1993b), Bramley and Watkins (1996) and Pryce (1999). Bramley (1993a, 1993b) constructs a multi equation (structural) model covering demand, supply, and planning permissions. Since the number of new planning permissions is responsive in part to the degree of pressure in the housing market, the behaviour of the planning system in this model is in part endogenous, rather than wholly exogenous.. Pryce (1999) explores which econometric approach is most suited to modelling housing supply. He adopts a two stage least squares method, also called an instrumental variables approach. His study permits the price elasticity of housing supply to vary over time and raises a possibility that supply might fall at higher prices. This could occur if developers expect further price rises in the future and withhold new supply from the market by way of increased land banking.

Work by these authors shows how econometric theory can construct models that provide unbiased and consistent parameter estimates. Even so, this does not result in agreement on the impact of planning policy on property markets. The earlier work by Bramley sparked a debate with Evans (Bramley, 1996; Evans, 1996) partly focusing on how best to measure the impact of planning in the housing market. Pryce (1999) also disputes the results suggested by Bramley, arguing that estimation method employed can lead to inaccurate results. Despite these criticisms, Bramley clearly attempts to combine appropriate econometric techniques with a consideration of how to measure the impact of planning. He demonstrates how a neo-classical economic approach can capture the importance of planning impacts while maintaining intellectual and econometric modelling integrity.

In their review of the extensive debate on the impact of planning policies on demand and supply, Adams and Watkins (2002) explore the work of such economists as Cheshire and Sheppard (1989 and 1996), Evans (1988 and 1991) and Meen and Andrew (1998) as well as that of Bramley (1993a and b, 1998 and 1999). They conclude that: “Overall, [such] studies seek to provide a partial [equilibrium] analysis of the distributional effects of planning intervention in the housing market. Although estimates of the magnitude and distribution of the effects differ, it is clear that planning constraints lead to higher prices, and densities, restrictions in the quantity of homes supplied and convergence in the type and design of new homes. Although these results are perceived in generally negative terms, there are winners and losers. Higher purchase prices force new buyers to pay more, but existing landowners gain from higher returns through the inflated selling prices in land and housing markets. Developers’ profits are dented by higher land prices and lower levels of development but are also inflated by higher selling prices. Residents derive unmeasured utility from the better urban environment associated with protected green belts but lose out through higher densities and smaller lot sizes within urban areas and at the urban fringe. Crucially, however, none of these studies is able to measure the less tangible social costs and benefits.” (Op Cit, p255-6)

According to Barker (2003), supply constraints on new housebuilding also have important macroeconomic consequences. Using a general equilibrium model, the Barker Report suggests that if housing supply had been more responsive to demand during the period since 1994, then between 82,000 and 380,000 additional homes would have been constructed in 2002, increasing GDP by between £3 billion and £16 billion and creating between 150,000 and 650,000 extra jobs. These significant macroeconomic benefits, it is argued, would have arisen both directly from higher employment and output in construction and indirectly from giving labour and industry greater scope to locate to where they are most productive.

Of course, what some portray as the negative consequences of planning constraints may be regarded by others as evidence of the successful implementation of more sustainable forms of development. Take density, for example. To promote sustainability, recent policy advice in England discourages developments at less than 30 dwellings per hectare and encourages those of between 30 and 50 dwellings per hectare (Department of the Environment, Transport and the Regions, 2000a). The indirect implementation of this policy through market processes that encourage high density development in areas where planning constraints have ensured high land values may well turn out to be far more important than its direct implementation through either the refusal of planning permission for low density development or the introduction of development plan policies against such development. Yet, as DTZ Pineda Consulting (2002) point out, where substantial amounts of urban windfall development results from high land values, redevelopment may take place in a piecemeal and haphazard fashion instead of being shaped by planning briefs or masterplans⁵.

Although neo-classical analysis of state-market relations in land and property has focused almost exclusively on how the planning system constrains the supply of land for new housing development, other direct impacts of public policy on supply or demand outcomes might also be worthy of further research. For example, in many locations that have suffered deindustrialisation, regeneration policies have tackled contamination and other physical constraints, so increasing the effective land supply in the locality. Alternatively, on the demand side, it has long been claimed that the completion of new transport infrastructure can have a positive impact on localised demand (Linneker and Spence, 1996). Conversely, planning blight may have a negative impact across a much wider area while alternative routes for a new highway, for example, are being resolved.

In this context, however, empirical evidence reviewed by Henneberry (1998) indicates that the impact of new transport infrastructure on house prices may be small (with a range from 0 to 6%) and limited to locations within ten minutes walking time of the improved system. Henneberry's own analysis of the impact of the Sheffield Supertram on local house prices found a modest inverse relationship during the construction period. He suggests that to find the full effect on house prices would require examining a longer time period. Related work by Dabinett (1998) found that the actual impact of the Supertram on house prices was so small that it could not be separately distinguished. Dabinett concludes that road corridor improvements in Sheffield had more impact in stimulating development than investment in the Supertram.

A more recent literature review on the relationship between public transport improvements and land values found that research had been concentrated in North America, with most studies concerned with impacts on the commercial property market (RICS and ODPM, 2002). Almost invariably, such research identified a positive influence of transport investment on values, but this varied widely from a marginal impact in some studies to an increase of over 100% in some North American markets. Most studies related to rail-based systems with relatively few concerned with investment in other forms of public transport (Weinberger, 2000). Although the RICS and ODPM (2002) study attributes the variety of research conclusions partly to methodological differences and partly to the particular circumstances of each case, the report also highlights the importance of the economic and institutional context within which any investment in public transport takes place. The report suggests, for example, that financial benefits from transport investment are likely to be maximised where they occur in the context of a comprehensive plan for the development of associated sites (Walmsley and Perrett, 1992), positive development incentives and co-ordinated

⁵ The term 'windfall development' is used here to refer to sites that unexpectedly become available for development in the sense defined by Bibby and Shepherd (1993: 49) as "site(s) for housebuilding the availability of which was not anticipated in a local plan or a housing land availability study". The term does not necessarily imply windfall gains for developers.

land-use planning (Dabinett, 1998), and supporting public policies more generally (Banister and Berechman, 2000). Moreover, according to Walmsley and Perrett (1992), public transit tends to accentuate existing economic trends since such investment may serve to boost expansion areas or boom periods, but at best, is likely only to stabilise not reverse processes of decline.

Absolute and relative policy impacts on land and property markets

A prime concern of neo-classical economists with the efficient allocation of resources ensures that the potential costs of government intervention in the land market are often stressed by this tradition, which regularly warns about the dangers of government failure. In this context, it is useful to consider whether public policies merely move value⁶ around the market, thus having only a relative impact on land and property prices or whether they have the potential to create or destroy value as well, thus also having an absolute impact on land and property prices. Again much of the debate on this, which now goes back over half a century, revolves around the planning system and not public policy in a broader sense, although many of the insights gained do have wider applicability.

In theoretical terms, the concepts of floating and shifting values were first brought to public attention by the Uthwatt Report (1942) to explain the **relative** impact of planning intervention on land and property markets. To simplify matters, the theory assumes that a steadily expanding city is surrounded on all sides by agricultural land. This encourages all landowners within the surrounding area to believe that one day they will be able to sell their land for development at a higher price than obtainable as agricultural land. In practice, even without a planning system, only a relatively small proportion of owners would experience actual demand for the conversion of their land to urban development. In this sense, development value can be said to **'float'** over a much wider area than it eventually settles on.

The introduction of planning intervention ensures that development is permitted at some locations but refused at others. Consequently, any potential development value on land refused planning permission is considered to **'shift'** to land granted planning permission. However, the values gained on sites granted planning permission are felt to be outweighed by the values perceived to be lost by owners refused planning permission, since across the area as a whole, landowners' past expectations had been unduly raised by floating value.

Theoretically, the concept of floating and shifting values was employed to argue that planning intervention had a neutral impact on land and property markets since the actual rather than the perceived gains and losses cancelled each other out. Although the theory was at the heart of successive statutory attempts to appropriate development value for the community in 1947, 1965 and 1974, its static view of land price determination, reinforced by its unrealistic assumptions, make it of limited assistance in explaining the real impact of policy intervention in what is now acknowledged to be a highly differentiated and dynamic land market. Although research on property market change within and outside Enterprise Zones (Erickson and Syms, 1986), for example, has shown how policy intervention can still have significant relative impacts across time and space, it is no longer believed that positive and negative effects cancel each other and result in a neutral outcome. The most interesting research questions in this direction thus concern the extent to which policy intervention is able to advantage certain locations or types of development relative to others.

⁶ We use the term 'price' to refer to exact sum recorded for particular transactions. 'Value' can be considered a more general estimate of likely price, usually based on evidence from previous transactions.

Nevertheless, in absolute terms, it should be recalled that since the demand for land and property is derived from the demand for the use to which it is to be put, bidding prices for land and property as a whole should increase if policy enhances economic efficiency by, for example, tackling congestion and improving overall accessibility. From a neo-classical perspective, value will thus be lost and not merely shifted if 'bad' planning produces a less efficient allocation of uses, causing users to locate less optimally, reducing their utility and profitability and causing them to bid less for land. Conversely, 'good' planning must have the potential to add value, by improving accessibility and complementarity within a city, so enhancing utility and profitability and enabling users to make higher bids. For "as the value of privately owned land may be increased by changes in the public land use infrastructure, town planning can be seen as a means of increasing the values of private and profitable uses of land" (Balchin *et al.*, 1995, page 106-7).

Public policy and the institutional construction of demand

It could be argued that discussions of the relative and absolute impacts of public policy on land and property markets illustrate the concentration of neo-classical theory on explaining and predicting market outcomes through analysis of supply and demand. However, in unpacking supply and demand as concepts and in seeking to unravel the processes by which they operate, neo-classical theory can be argued to be less helpful.

Guy and Henneberry (2002c) criticise Ball's (2002) treatment of demand, which, they suggest, apparently ebbs and flows with no relation to wider society. They argue that: "The fact that demand is routinely used in property debates as a standard catch-all for an incredibly complex and deeply social process is no excuse for reifying it and leaving it unexplained" (Guy and Henneberry, 2002c, p. 1473). In this context, public policy in its widest sense may have a critical role in setting the context for individual demand decisions that ultimately work their way through to price outcomes.

Take, for example, the much-trumpeted 60% brownfield housing land target. This clearly implies a broadening of demand for new urban housing from specific social groups to more general sections of the population who have been at the forefront of past residential decentralisation. Recognising this, the Urban Task Force (1999, pp. 35–36) commented that: "For many people, the crunch comes with having children. An urban environment previously perceived as diverse and stimulating starts to appear unsafe. Schools and health services become more important. While it is therefore accepted that, at this stage in their life cycle, many people will continue to move to more suburban or small town environments, we must look to persuade more families to stay. This means looking beyond the design, planning and building of the urban environment at the role played by health, education, security and social services." As this demonstrates, public policy in its widest sense is clearly important in setting the context for demand.

Public policy and institutional constraints upon supply

Although institutional analysis can certainly offer neo-classical theory some assistance in unpacking and inter-relating the social, economic and political components of demand, much of its previous research efforts have concentrated on demonstrating that the supply-side, especially in relation to the development process, "should not be regarded as a smoothly operating 'service-hatch'" (Van der Krabben and Lambooy, 1993, p. 1382). Monk and Whitehead (1999), for example, examined the behaviour of different planning authorities whose approach to structure plan policies differed. They found that the impact on new supply was substantially greater where authorities permitted land with outstanding planning permission to exceed that indicated by structure plans. Healey (1991) acknowledged that neo-classical models of the development process had earlier identified the significance of planning restrictions, monopoly public land ownership and the cost and

availability of credit as supply-side constraints. However, she suggested that such a limited view of supply blockages meant that the neo-classical tradition still regarded the development process as relatively unproblematic and, as a result, over-concentrated on the demand side.

Since then, considerable work has been undertaken on defining and identifying a much fuller range of supply-side blockages, especially in relation to physical and infrastructural difficulties (see, for example, Parliamentary Office of Science and Technology, 1998; Syms and Knight, 2000; Syms, 2001) and ownership constraints (Adams *et al.*, 2001). Such research suggests that processes can be as important as outcomes and that analysis of state-market relations in land and property markets cannot be restricted merely to matters of aggregate supply and demand.

In the end, however, neo-classical economists might retort that process matters little if long-run outcomes are unaffected. Take, for example, recent debate on whether land ownership constraints to development attributable to varied owner behaviour undermine the neo-classical view. On the one hand, Ball *et al.* (1998) contend that the simple land supply model, which assumes that landowners behave rationally and have similar preference functions, is not necessarily invalidated by varied owner behaviour. Although variations in owner preferences may slow down market responsiveness or alter the spatial pattern of development, their impact on supply elasticities is more likely to occur in the short rather than the long run. They argue that: “the long-run land supply function should be expected to be more elastic, because, over the long run, more landowners are tempted to sell for development” (Ball *et al.*, 1998, p. 68).

On the other hand, Adams *et al.* (2001) point to detailed studies that have shown that unresponsive ownership strategies often take many years to change. Llewelyn-Davies (1996), for example, found that 10 of the 28 potential housing sites they examined in Strathclyde that remained vacant at least between 1985 and 1995 were affected by ownership constraints and/or reluctance to sell. In a later nationwide survey, the Civic Trust (1999) revisited 54 potential housing sites in 1998 that had originally been identified by the House Builders Federation in 1986. The investigation identified landowner retention as a dominant reason why 11 sites either remained undeveloped at the end of the period or were developed for uses other than housing. Such evidence makes it important to consider whether demand changes are ever fully reflected in long-run landowner behaviour to the extent theorised in mainstream supply models.

INSIGHTS ON MARKET FAILURE AND PUBLIC POLICY FROM WELFARE ECONOMICS

According to neo-classical theory, a perfectly competitive market that experiences no external distortions will achieve a resource-efficient allocation without any need for state intervention. In this context, efficiency in resource allocation can be defined by reference to the concept of Pareto optimality, in which it is impossible to make one person better off without making someone else worse off⁷. This concept provides an important theoretical benchmark within welfare economics since it suggests that, where markets depart from the conditions of perfect competition or face external distortions, state intervention may be able to help improve the welfare of both consumers and producers.

Essentially, welfare economics emerged from within neo-classical economics, since individuals were seen as the best judge of their own welfare, with social welfare then calculated as the mere

⁷ In practice, since Pareto optimality may be impossible to achieve, the Kaldor-Hicks criterion may provide a more accessible definition of efficient resource allocation. This states that an efficient resource allocation occurs when those who have been made better off can potentially compensate those who have become worse off and still be better off themselves.

summation of such individual judgements (Rutherford, 1994). From a welfare economics perspective, it can be argued that land has public good characteristics. There are thus imperfections and failure in land and property markets that thwart the achievement of Pareto optimality and establish the case for state intervention to improve market efficiency and enhance economic welfare.

For example, the physical and legal characteristics of land make it distinctive as a commodity. Real property is locationally specific and generally immovable (D'Arcy and Keogh, 1999). Land ownership in strict legal terms refers not to land but rather to property rights in land, known as estates and interests. These rights exist as 'bundles' (Denman and Prodano, 1972), the ownership of which may be divided, even for a single parcel, between different individuals or organisations.

Once land is developed, it creates a built environment that becomes extremely durable. Yet, the optimal redevelopment rule in neo-classical theory, which envisages the smooth transfer of land to its 'highest and best use', assumes that once the price of land in a new use exceeds the price of land in its current use by the cost of demolition, rational owner behaviour readily accepts sale for redevelopment (Rosenthal and Helsley, 1993). However, as Bourne (1967) suggests, despite such theoretical imperative, some owners may be hesitant or financially unable to forsake their existing property. Furthermore, if redevelopment requires substantial owner investment or carries significant risk, owners may prefer to accept the existing level of returns, even if they expect redevelopment to generate higher returns in the long term.

Such market imperfections arise when the theoretical conditions of perfect competition are violated within the market. Where market operations are distorted by external influences, market failure can also occur. Externalities, public goods and lost opportunities all provide examples of such distortions within land and property markets (Adams, 1994).

An externality arises when the production or consumption of a commodity creates social costs or benefits that market mechanisms are unable to transmit into private costs or benefits. Externalities therefore create beneficial or harmful effects, for which no payment is either made or received by producers and consumers. For example, if the owner of a derelict site undertakes reclamation and landscaping, it may enhance the value of the neighbouring properties. However, if the site is subsequently brought back into use for car dismantling, property values in the neighbourhood may decrease. In this context, sustainability policies that seek to promote high-density housing on brownfield sites may be frustrated if dereliction in the immediate or wider neighbourhood is not also tackled. However, new urban housing, if successfully developed on one brownfield site, can help raise the value of adjacent such sites. Conversely, if development is considered to be over-intensive, it may threaten the value of adjoining land.

Since individual owners usually take little or no account of such social costs or benefits, land and property markets tend to produce too few beneficial externalities and over provide harmful ones. Although externalities are often deployed as the classic justification for town planning and associated public policies, existing measurement methods such as cost-benefit analysis and community impact evaluation (Lichfield, 1996) remain open to much dispute, on account of the subjectivity of many of their assumptions. This may help explain why applied welfare economics, with all its propensity to calculate distributive costs and benefits has had less impact on public policy in recent decades than such broad faiths as 'competition', 'deregulation', 'privatisation' and 'citizenship' (Maclennan and Gibb, 1993). Much research, for example, still needs to be done to pinpoint how externalities affect relative prices between different parcels of land and how this is influenced by policy interventions.

A public good, once produced, can be enjoyed by more than one consumer at the same time, without diminishing the utility derived by any other consumer. Indeed, no consumer who wishes to benefit from a public good can usually be excluded. Since it is impossible to prevent free enjoyment of public goods, no charges can be enforced at the point of consumption. This makes it very hard to organise the supply of public goods through normal market mechanisms. A lighthouse is the classic example of a public good.⁸ Although public goods are normally supplied by the public sector, the definition of a public good is dependent on its distinctive qualities rather than on the means of supply. Even when supplied by the public sector, public goods tend to be heavily used but underproduced.

Many urban goods, such as roads, parks and the external environment of the city, display elements of publicness, although they are not public goods in the strict economic sense. Much past debate has concerned the extent to which such infrastructure could be financed by collecting the betterment it produces in the surrounding areas. New motorway construction, for example, has a direct, and often considerable impact on the value of land that it opens up for development. It can be argued that for any betterment to be collected in full, it would be necessary for the state to acquire not simply the route of the motorway itself but a much wider area, the value of which benefits from increased accessibility. Since in practical terms, this might be very wide, common sense might suggest limiting additional acquisitions to areas with the greatest and most immediate development potential. In this context, it is interesting to note that much of the finance for the development of the Mass Transit Rail (MTR) system in Hong Kong came from the sale of airspace above new stations for intensive office development.

In the UK, the concept of Transport Development Zones (TDZs) was proposed by the RICS in 1997 as a means to help fund improvements in public transport by capturing consequent demonstrable increases in property values. It was suggested they would operate by allowing substantial increases in development density above normal planning policies within declared TDZs. These would typically extend about 200m around a major local metro/bus interchange and 400m around a mainline railway terminus. Contributions to funding transport infrastructure would be negotiated on a case-by-case basis through planning obligations. As a more radical proposal, Brittan (2001) supported the case for a 25% tax on the estimated annual returns to landowners from the publicly financed Jubilee Line extension in London. This, he suggested, would have more than paid for the capital cost of this new transport infrastructure over a 20-year period.

In welfare economics, the operation of the Prisoners' Dilemma (Pindyck and Rubinfeld, 1995) can lead to a loss of those opportunities where social benefits would exceed social costs, or at least a significant delay in their realisation. A good example of such a lost opportunity in land and property markets occurs where development is frustrated by multiple or fragmented ownership. This happens where a site has no single owner, but is divided between two or more freehold owners. In a private market, the last owner to settle is in the strongest position to drive a hard bargain with any developer who has already bought out all other owners. Without compulsory purchase by the state, development cannot proceed unless agreement is reached with each owner.

Developers who seek to assemble urban redevelopment sites in multiple ownership through the private market, may thus have to proceed slowly and through third parties (Marriot, 1967). Alternatively, on greenfield land, housebuilders making speculative planning applications for new settlements, have been known to offer owner-occupying farmers 'one-in all-in' option arrangements, whereby no single option is taken up by the housebuilder until all the farmers have agreed to standard

⁸ In this context, it is interesting to note that in the 19th century lighthouses in England were built privately rather than by the government (Coase, 1974). This demonstrates how distinctive qualities, rather means of supply, determine whether or not a good is public.

purchase terms. Apart from such techniques, the realisation of potential land value in cases of multiple ownership may be wholly dependent on policy intervention.

Market imperfections and failure point to the importance of risk and uncertainty in land and property markets. They imply that public policy may have a potentially significant role in determining the context for market operations by helping to reduce the extent of market imperfections and failure. In this sense, while neo-classical economics highlights direct policy impacts on supply and demand, welfare economics reveals ways in which public policy might influence market decisions indirectly but no less significantly.

CONCLUSIONS

The first part of the chapter indicated how neo-classical economics has broadened its base in both theory and method, so that it is no longer dependent on restrictive behavioural assumptions. It explored the potential of public policy directly to alter the supply and demand for land and property and to have both absolute and relative impacts on the pattern of land values. The advances made by neo-classical economics in analysing property markets have been significant. Policy relevant issues such as the price elasticity of new housing supply, adjustment to market disequilibrium, the development of sub-market level analysis and the impact of planning on commercial property markets have been analysed using sophisticated econometric techniques developed in other areas of mainstream economics. Indeed, the emergence of a sub-markets level of analysis recognises that the concept of a single market is not applicable to land and property markets. Hence, an important message of this chapter for policymakers is the need to consider the impact of changes at sub-market level.

Turning to welfare economics, we examined to extent to which public policy might seek more explicitly to resolve market failure, while recognising that the nature and scale of intervention may have to vary from one sub-market to another to reflect the differential distribution of imperfections and failure between sub-markets.

The chapter has highlighted the need to investigate both process and outcome and, in so doing, to ensure that perspectives derived from mainstream economics are augmented by a strong emphasis on the institutional context as for market operations. Even within neo-classical economics, we stressed the need not to view demand for land and property as some conceptual abstraction but rather as shaped by public investment in schools, hospitals and the public realm, to name but three examples. The distinction between social and private costs and benefits made in welfare economics further emphasised the broader context and implications of property markets decisions. Such themes become more prominent in the next chapter, where we review the growth of institutionalism and assess its relevance in understanding state-market relations in land and property.

REFERENCES

Adams, D. (1994) *Urban Planning and the Development Process*, UCL Press, London.

Adams, D, Disberry, A, Hutchison, N. and Munjoma, T. (2001) Ownership constraints to brownfield redevelopment, *Environment and Planning A*, 33, 453-477.

Adams, D. and Watkins, C. (2002) *Greenfields, Brownfields and Housing Development*, Blackwell Science, Oxford.

- Balchin, P. N, Bull, G. H. and Kieve, J. L. (1988, 4th edn) *Urban Land Economics and Public Policy*, Macmillan, London.
- Balchin, P. N, Bull, G. H. and Kieve, J. L. (1995 5h edn) *Urban Land Economics and Public Policy*, Macmillan, London.
- Ball, M. (1998) Institutions in British property research, *Urban Studies*, 35, 1501-1517.
- Ball, M. (2002) Cultural explanation of regional property market: a critique, *Urban Studies*, 39, 1453-1469.
- Ball, M. Lizieri, C. and MacGregor, B, (1998) *The Economics of Commercial Property Markets*, Routledge, London.
- Banister, D. and Berechman, J. (2000) *Transport Investment and Economic Development*, UCL Press, London.
- Barker, K. (2003) *Review of Housing Supply: Securing our Future Housing Needs – Interim Report – Analysis*, HMSO, London.
- Bibby, P. and Shepherd, J. (1993) *Housing Land Availability: The Analysis of PS3 Statistics on Land With Outstanding Planning Permission*, HMSO, London.
- Bramley, G. (1993a) The Impact of Land-use Planning and Tax Subsidies on the supply and Price of Housing in Britain, *Urban Studies* 30 (1) 5-30.
- Bramley, G. (1993b) Land-use Planning and the Housing-market in Britain: the impact on housebuilding and house price, *Environment and Planning A*, 25 (7) 1021-1051.
- Bramley, G. (1996) Impact of land use planning on the supply and price of housing in Britain: Reply to comment by Alan W. Evans, *Urban Studies*, Vol. 33, No. 9, 1733-1737.
- Bramley, G. (1998) Measuring Planning: indicators of planning restraint and its impact on housing land supply, *Environment and Planning B*, 25(1), 31-57.
- Bramley, G. (1999) Housing market adjustment and land supply constraints, *Environment and Planning A*, 37, 1169-1188.
- Bramley, G. and Watkins, C. (1996) Modelling the relationship between land availability, the land-use planning system and the supply of new housing, Paper presented at RICS ‘Cutting Edge’ Conference, University of the West of England, Bristol, 20-21 Sept 1996.
- Brittan, S. (2001) How land taxes could pay for urban renewal, *Financial Times*, 30 August 2001.
- Cheshire, P. and Sheppard, S. (1989) British planning policy and access to housing: some empirical estimates, *Urban Studies*, 26, 469-485.
- Cheshire, P. and Sheppard, S. (1996) On the price of land and the value of amenities, *Economica*, 62, 247-267.

- Civic Trust (1999) *Brownfield Housing: 12 Years On*, Civic Trust, London.
- Coase, R. H. (1974) The lighthouse in economics, *Journal of Law and Economics*, 7, 357-376.
- Colwell, P. (2002) Tweaking the DiPasquale-Wheaton Model, *Journal of Housing Economics*, 11, 24-39.
- D'Arcy, E. and Keogh, G. (1999) Property market efficiency: an institutional perspective, *Urban Studies*, 36, 2401-2414.
- Dabinett, G. (1998) Realising regeneration benefits from urban infrastructure investment: lessons from Sheffield in the 1990s, *Town Planning Review*, 69, 171-189.
- Denman, D. R. and Prodano, S. (1972) *Land Use: An Introduction to Proprietary Land Use Analysis*, George Allen and Unwin, London.
- Department of the Environment, Transport and the Regions (2000a) *Planning Policy Guidance 3 (revised): Housing*, The Stationery Office, London.
- Di Pasquale D and Wheaton W (1996) *Urban Economics and Real Estate Markets*, Prentice Hall, New Jersey.
- DTZ Pinda Consulting (2002) *Land Values and the Implications for Planning Policy*, Social Research Findings 152/2002, Scottish Executive, Edinburgh.
- Erickson, R. A. and Syms, P. M. (1986) The effects of enterprise zones on local property markets, *Regional Studies*, 20, 1-14.
- Evans, A. (1988) *No Room! No Room! The Costs of the British Town and Country Planning System*, Occasional Paper No 79, Institute of Economic Affairs, London.
- Evans, A. W. (1991) Rabbit hutches on postage stamps: planning, development and political economy, *Urban Studies*, 28:6, 853-70.
- Evans, A. (1996) The impact of land use planning and tax subsidies on the supply and price of housing in Britain: a comment, *Urban Studies*, 33, 581-585.
- Guy, S. and Henneberry, J. (2002b) Conclusions: interpreting development, pp. 285-302 in Guy, S. and Henneberry, J. (eds) *Development and Developers*, Blackwell Science, Oxford.
- Guy, S. and Henneberry, J. (2002c) Bridging the divide? Complementary perspectives on property, *Urban Studies*, 39, 1471-1478.
- Hargreaves-Heap, S. P. and Varoufakis, Y. (1995) *Game Theory: A Critical Introduction*, Routledge, London.
- Healey, P. (1991) Models of the development process: a review, *Journal of Property Research*, 8, 219-238.
- Hendershott, P. H. (1995), Real Effective Rent Determination: Evidence from the Sydney Office Market, *Journal of Property Research*, 12 (2), 127-35.

Hendershott, P.H. (1996), Rental Adjustment and Valuation in Overbuilt Markets: Evidence from the Sydney Office Market, *Journal of Urban Economics*, 39, 51-67.

Hendershott, P., MacGregor, B. and White, M. (2002) Explaining Real Commercial Rents using an Error Correction Model with Panel Data, *Journal of Real Estate Finance and Economics*, 24, 59-87.

Henneberry J (1998) "Transport investment and house prices", *Journal of Property Investment and Valuation*, 16, 2, pp 144-158.

Hodgson, G. M. (1993) *Economics and Evolution*, Polity, Cambridge.

Hodgson, G. M. (1999) *Economics and Utopia*, Routledge, London.

Jackson, C. (2001) A model of spatial patterns across local retail property markets in Great Britain, *Urban Studies*, 38, 9, pp. 1445-1471.

Jackson, C. (2002) Classifying Local Retail Property Markets on the Basis of Retail Rental Growth Rates, *Urban Studies*, 39, 8, pp. 1417-1438.

Keogh, G. (1994) Use and investment markets in British real estate, *Journal of Property Valuation and Investment*, 12.4, 58-72.

Lichfield, N. (1996) *Community Impact Evaluation*, UCL Press, London.

Linneker, B. and Spence, N. (1996) Road transport infrastructure and regional economic development: The regional development effects of the M25 London orbital motorway, *Journal of Transport Geography*, 4, 77-92.

Llewelyn-Davies (1996) *The Re-Use of Brownfield Land for Housing: A Preliminary Study of Strathclyde*, Joseph Rowntree Foundation, London.

Maclennan, D. (1982) *Housing Economics: An Applied Approach*, Longmans, London and New York.

Maclennan, D. and Tu, Y. (1996) Economic Perspectives on the Structure of Local Housing Systems, *Housing Studies*, 11(3), 387-406

Maclennan, D. and Whitehead, C. (1996) Housing economics – an evolving agenda, *Housing Studies*, 11, 341-344.

Marriot, O. (1967) *The Property Boom*, Hamish Hamilton, London.

Meen, G. (1996a) Spatial Aggregation, Spatial Dependence and Predictability in the UK Housing Market, *Housing Studies*, 11(3), 345-372.

Meen, G. (1996b) *Ten Propositions in UK Housing Macroeconomics: an overview of the 1980s and Early 1990s*, *Urban Studies*, 33 (3) 425-444.

Meen, G. and Andrew, M. (1998) *Modelling Regional House Prices: A Review of the Literature*, Department of the Environmental, Transport and the Regions, London.

- Monk, S. and Whitehead, C. (1999) Evaluating the economic impact of planning controls in the United Kingdom: some implications for housing, *Land Economics*, 75, 74-93.
- Montet, C. and Serra, D. (2003) *Game Theory and Economics*, Palgrave Macmillan, Basingstoke.
- Moses L N (1958) Location and the theory of production, *Quarterly Journal of Economics*, 73, 259-272.
- Needham, B. (1994) Comment, *Journal of Property Research*, 10, 65-67.
- Parliamentary Office of Science and Technology (1998) *A Brown and Pleasant Land*, POST, London.
- Pindyck, R. S. and Rubinfeld, D. L. (1995, 3rd edn) *Microeconomics*, Prentice Hall, New Jersey.
- Pryce, G. (1999) Construction elasticities and land availability: a two-stage least squares model of housing supply using the variable elasticity approach, *Urban Studies* 36:13, 2283-2304.
- Royal Institution of Chartered Surveyors and Office of the Deputy Prime Minister (2002) *Land Value and Public Transport, Stage 1 – Summary of Findings*, RICS and ODPM, London.
- Rutherford, M. (1994) *Institutions in Economics: The Old and the New Institutionalism*, Cambridge University Press, Cambridge.
- Samuels, W. (1995) The present state of institutional economics, *Cambridge Journal of Economics*, 19, 569-590.
- Syms, P. (2001) *Releasing Brownfields*, Joseph Rowntree Foundation, York.
- Tsolacos, S., McGough, T and Keogh, G. (1998), Modelling use, investment and development in the British office market, *Environment and Planning A*, 30, 1409-1427.
- Tu, Y (2003) Segmentation, Adjustment and Disequilibrium in O'Sullivan, T, and Gibb, K (eds) *Housing Economics and Public Policy*, Blackwell Science, Oxford.
- Urban Task Force (1999) *Towards an Urban Renaissance*, E& F N Spon, London.
- Uthwatt Report (1942) *Expert Committee on Compensation and Betterment*, Final Report, Cmnd 6386, HMSO, London.
- Van der Krabben, E. and Lambooy, J. G. (1993) A theoretical framework for the functioning of the Dutch property market, *Urban Studies*, 30, 1381-1397.
- Weinberger, R. R. (2000) Commercial Rents and Transportation Improvements: The Case of Santa Clara County's Light Rail, Working Paper WP000RW2, Lincoln Institute of Land Policy, Cambridge, MA.
- Wheaton, W.C., R.G. Torto and P. Evans (1997) The Cyclic Behavior of the Greater London Office Market, *The Journal of Real Estate Finance and Economics*, 15(1), 77-92.
- White, M. and Allmendinger, P. (2003) Land-use planning and the housing market: a comparative review of the UK and the USA, *Urban Studies*, 40, 953-972.